



IMPROVING STATISTICAL ASSESSMENT OF TOURISM DEVELOPMENT

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Abstract

Tourism has become one of the fastest growing competitive sectors in the world economy. The number of tourists at the international level has reached 1.8 billion. people. Tourism revenues have reached 1.7 trillion US dollars, accounting for 7% of world exports and 29% of services exports. Tourism revenues in world exports rank third after the chemical industry and fuel and energy exports. Tourism occupies a key place in the leading sectors of the economies of countries around the world. As a result, the innovative development of tourism in the sectors of the economies of most countries around the world remains one of the most important tasks today.

In different countries of the world, extensive scientific and practical research is being conducted to increase tourism potential, offer new services, create new tourism brands, radically increase the competitiveness of the tourism industry, conduct statistical research in the tourism industry and statistically assess the innovative development of tourism. The issues of statistical assessment of tourism have not been sufficiently addressed in the research. This makes it urgent to further expand the geography of tourism in research, increase its share in the economy of countries, in particular in the gross domestic product, and turn tourism into one of the profitable sectors.

In Uzbekistan, great attention is paid to the development of tourism, assessing its place in the economy, and maintaining tourism statistics on the basis of international organizations and standards. "It is necessary to improve the maintenance of statistics in the tourism sector, including on the basis of international experience and standards, including the World Tourism



Organization,” it was emphasized. This includes tasks such as increasing the flow of tourists and expanding the export of tourism services, increasing the employment rate of the population based on the creation of new jobs in the industry , and most importantly, organizing the maintenance of tourism statistics in accordance with international standards and creating a methodology for statistical assessment of tourism. In this regard, today there is a need to conduct scientific research in this area.

Keywords: tourism receipts, tourism consumption, tourism auxiliary account, tourism statistics, forecasting methods

Introduction

20th century second half starting population material well-being growth and transport with the development of (especially air and rail) internal and external tourism develop started . To the calculations in the 1950s , 25 million in the world . international tourist there is was , tourism industry 2.1 billion US dollars dollar income brought if , in the 1960s and 1970s this indicators relevant 70 million and 130 million people , respectively , income and reached 12.2 and 40.3 billion [1] .

Tourism the population spiritual and social to grow impact to do with one in line , good income source to the fact that known to be with many countries him/her great attention to development gave and as a result in the countries of the economy new industry – tourism network appearance Tourism term English "tour" in Turkish meaning means and to this day to him/her given definitions different districts. The first one scientific description Sweden in 1941 scientists W. Hunziker and K. Kraft [2] by given . Their in the opinion of people permanent to live from the place other to places income to receive and constantly to live from the goals outside other trips done increase called tourism . However, this in the definition time factor into account not received for to him/her relatively many critical of relationships to the formation reason it has been .

Despite this , in general when receiving Swedish of scientists tourism in the study contribution very high . For example , they tourism to the field from the first become scientific approached and fundamental scientific research for basis



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created this situation many (E.Cohen , G.Pearce , R.Sharpley , RWButler etc.) recognizes .

Tourism in the republic research take visited and are being visited (ISTukhliev , FQKomilova , SSRo'ziev , MJTemirkhonova , Sh.R.Fayzieva , BSSafarov , NNSafarova , Ye.Gol y shova , A.Saidov , T.Tashmuradov etc.) Uzbek researchers to tourism gave unanimity in definitions no . AF Saidov According to [3] : « Tourism people need satisfy for different kind goods and services of the types usable to oneself typical economic " is a field ."

Scientists feedback with one in line to tourism official organizations by definitions are also given . The UN Statistical Committee in 1953 at the conference " International visit " Commander ", from 1963 and " visit " " orderer ", " tourist ", " excursor " and others concepts international to practice was entered . According to it : - visit the one who orders is his/her own usual from the environment any designated main to visit a place ordering in the country or in place to work location from the purpose except , every how the goal looking forward to , one from the year less was within the period the trip done increasing is a tourist . - tourist - this on a trip collective and individual in order placement in the facilities at least one yesterday overnight remaining trip is a traveler . - tourist or one daily visit ordering - his/her own usual stay from the place other any one to the place short during the day and at night without fail trip doer is a person .

Tourists to the point in receiving UN official statistic organs and local statistic organs role is unparalleled . International at the level statistic into account to take work by the UN managed The BTT was established under him (1976) . This organization four It is composed of the following departments : in the Department of Statistics statistic problems learn from them solution finds and all to countries recommendations gives . With this one BTT is another in the line official organizations and countries with integral linked . Home managed by the UN done is increased , that is, it is international to organizations recommendations gives and from them through countries and WTO reports acceptance does .

Material and method. The system of statistical indicators should be able to fully and comprehensively characterize the development of the studied sector at the



provincial, regional and national levels, reveal its internal characteristics, identify existing statistical trends, and most importantly, assess the impact of this sector on a positive change in the quality of life of the country's population[4].

Statistical indicators that reflect the place of tourism in the economy

No.	Indicators	Calculation order	Notes
1.	Indicator representing the role of the tourism sector in GDP , %	$K_{YAIM} = \frac{YQQ_t}{YAIM}$	YQQ t – gross added value produced in the tourism sector value
2.	Indicator representing the role of the tourism sector in GDP , %	$K_{YQQ} = \frac{YQQ_t}{YQQ}$	YQQ t – gross added value produced in the tourism sector value
3.	The share of the population employed in the tourism sector in total employment in the economy, %	$K_{t.b.} = \frac{B_t}{B}$	B t -tourism positions in the sector , V- total positions in the economy
4.	Tourism of proceeds Share of the country's exports, %	$K_{t.t.} = \frac{T_t}{Ex}$	T t -tourism revenues, export volume in country X
5.	tourism spending in the country 's imports,%	$K_{t.x.} = \frac{T_x}{Im}$	T x -tourism expenses, Im- in-country import volume
6.	Tourism residue (balance)	$S_t = T_t - X_t$	S t -balance T t -tourism income X t -tourism expenses
7.	Tourism in the field investment Share of total investment, %	$K_{t.i.} = \frac{T_i}{In}$	T i -tourism investment in the sector , investment in the country size
8.	public spending on tourism in total public spending,%	$K_{t.g.} = \frac{T_g}{G}$	spending on tourism , G-state amount of expenses
9.	The share of taxes from the tourism sector in total taxes ,%	$K_{t.t.} = \frac{T_t}{Tax}$	Tt-tourism falling from the field tax amount, Tax-total taxes size

In the standards developed by the UN, WTO, and Eurostat, the terms "tourism receipts" and "tourism expenditure" are used in literature published in the Uzbek language to refer to tourism exports and imports. We in our opinion, such translation made to the goal appropriate it's not



That is, if we translate the above words into Uzbek, the terms tourism revenues and expenses appear.

Tourism receipts are the total amount of all tourism products and services purchased by inbound tourists from the country they visit. The tourism products and services that tourists can purchase include:

This from the state buy received tour services;

Transportation expenses;

Visa fees , currency exchange, customs fees;

Located places for payments;

To calculate tourism revenue, information is collected from incoming tourists as they leave the border post after completing their trip, using a questionnaire, and the average cost per tourist is calculated and multiplied by the total number of tourists visiting during the year.

Results. This document provides a detailed definition of the above concepts and the calculation methodology. With the development of tourism in many countries, it began to seem that the recommendations adopted in 1993 were outdated by the beginning of the 21st century and did not fully meet the requirements of the time. In this regard, in 2008, an international standard for tourism statistics was created in cooperation with the UN, ILO, Eurostat and others. A comprehensive analysis of both documents shows that the standard adopted in 2008 is significantly improved and has positive differences compared to the 1993 document. In our opinion, the 2008 international tourism statistical recommendations have the following differences compared to the 1993 document

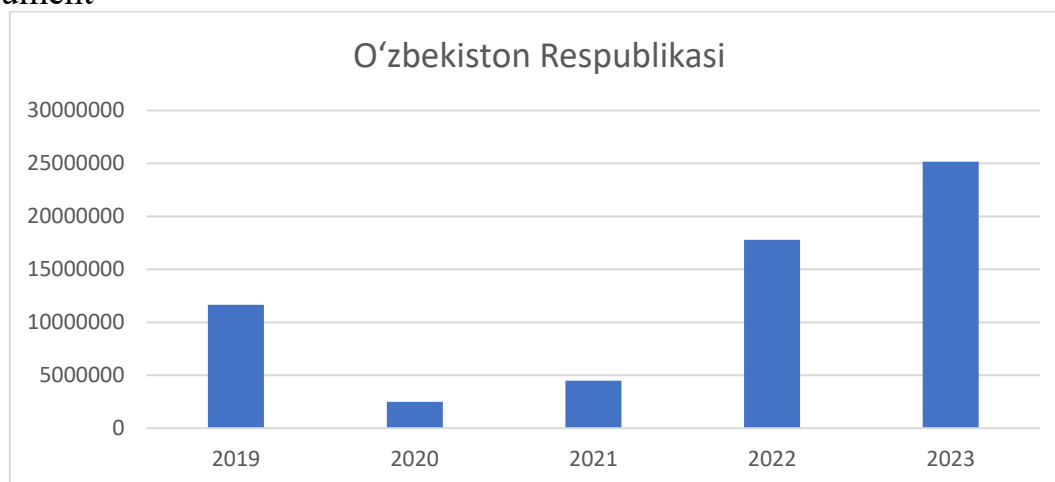


Figure 1. Inbound tourism consumption in the Republic of Uzbekistan, million soums



2019–2023 during To Uzbekistan entrance according to tourism consumption noticeable at the level changing went . In 2019, this indicator 11,639.3 billion formed a sum if , pandemic sharply in 2020 under the influence decreased to only 2,489.9 billion amounted to soums . In 2021, this indicator a little recovered , 4,492.9 billion in soums reached . In 2022 and 2023 and tourism in the field stable growth observed , suitable 17,776.7 billion and 25,169.2 billion respectively amounted to soums . This numbers In Uzbekistan tourism of the field recovery and development is also progressing internationally tourists of the flow consistent increasing going shows .



Figure 2. Employment in the tourism sector, people

Employment indicators in the tourism sector in Uzbekistan remained relatively stable during 2019–2023, confirming the economic importance of this sector. While in 2019 the number of people employed in tourism was 231.4 thousand people, during the pandemic this figure decreased to 190.8 thousand people in 2020. Nevertheless , the following in years slowly recovery observed , reaching 208.1 thousand in 2021, 214.6 thousand in 2022 and 215.7 thousand in 2023 This dynamic In Uzbekistan tourism sector economic from crises after own potential recovering and employment positive contribution adding shows .



As mentioned above, tourism efficiency, or rather its effectiveness, is determined by the flow (number) of tourists, the volume of tourism revenues, is evaluated by GDP generated in tourism and other indicators. However, we are currently in the country with the above-mentioned regions The above indicators are not specified. According to many scientists and practitioners, the number of tourists staying overnight in regional hotels can also be used as an outcome. In addition, this indicator is given in the 1st tourism report. Taking into account these factors, a correlation analysis was carried out to study the relationship between the number of tourists staying overnight in hotels and the tourism attractiveness, tourism services and external factors in the AVS model. Correlation table from composing before result and every one factor between dependency study for correlation coefficient calculated((EXCEL-2010 was used for this).

Table 2.10 AVS model and tourists staying overnight in regional hotels
between correlational dependency

	<i>SHE IS</i>	<i>A</i>	<i>V</i>	<i>S</i>
she is	1			
<i>A</i>	0.72	1		
<i>V</i>	0.89	0.58	1	
<i>S</i>	0.81	0.38	0.95	1

Table 2.10 data testimony as much as it gives in hotels There is a strong connection between overnight stays and tourism services.

Now, we will conduct an econometric analysis of these changes and study the relationship between the AVS model and the number of tourists staying overnight in regional hotels in 2010-2019 (Appendix 5).

The following regression equation was chosen to study the relationship between the outcome and the factors:

$$\log_{10} y = x_1 + x_2 + x_3 \quad (2.1)$$

Accounting work was completed and the following results were achieved
(Appendix 6)



Table 2.11 Regression equation results

Variables	Coefficient	Std. error	t-statistic	Probability
Free limit	-1.01	1.53	-0.66	0.53
X_1	0.33	0.17	2.01	0.07
X_2	0.19	0.68	0.29	0.78
X_3	0.62	0.83	0.75	0.47
R^2	0.86			
Adjusted R^2	0.82			

2.11 shows the number of overnight stays in hotels and the attractiveness of tourism, tourism services, and external factors. Regression quantities, standard errors, statistics, and probabilities, indicating the relationship between the quantities, were calculated.

equal to. These factors explain 86% of the variation in the dependent variable Y.

To check the reliability of the regression equation, we use F and t tests. We write the null and one-sided alternative hypotheses as follows:

$$H_0 : \rho^2 = 0 \quad H_1 : \rho^2 > 0$$

The critical value of F for the significance level $\alpha=0.05$ is we find the value of :

$$F_j = F_{\alpha}(k-1; nk) = F_{0.05}(3; 10) = 2.62$$

ANOVA table: Table 2.12

Dispersion	Degree of freedom (DF)	Sum of squares (SS)	MS	F-ratio
Regression	3	7.10	2.37	21.24
Remains error	10	1.11	0.11	
Total	13	8.21		

F of the selection calculated value and, $F = \frac{SSR/(k-1)}{SSE/(n-k)} = 21,24$



Here , n-observations number; variables number; USSR – regression sum of squares; SSE – sum of squares of residuals.

Solution doer rule: $F_j < F_h$ happened for H_0 hypothesis is rejected .

Therefore , the attractiveness of tourism, tourism services, and external factors greatly influence and explain the changes in overnight tourists.

The purpose of performing a t-test on a model is to determine whether the estimated linear regression equation coefficients of the main set are significantly different from zero. It consists in checking whether they are significantly different, that is, whether they are not random.

Suitable zero and one side hypotheses as follows we construct: $H_0 : \beta_1 \leq 0$ $H_0 : \beta_2 \leq 0$ $H_0 : \beta_3 \geq 0$ $H_0 : \beta_4 \geq 0$

$H_1 : \beta_1 > 0$ $H_1 : \beta_2 > 0$ $H_1 : \beta_3 < 0$ $H_1 : \beta_4 < 0$

$\alpha=0.05$ significance level for of critical value we find:

$t_{cr} = t_{\alpha}(nk) = t_{0.05}(10) = 1.71$

Now and t of selection calculated value we will find. This First, we need to define some statistical values.

Regression coefficients standard error

$S_{b1} = 1.53$; $S_{b2} = 0.17$; $S_{b3} = 0.68$; $S_{b4} = 0.83$;

$$t_1 = \frac{b_1 - \beta_1}{S_{b_1}} = -0,66 \quad t_2 = \frac{b_2 - \beta_2}{S_{b_2}} = 2,01 \quad t_3 = \frac{b_3 - \beta_3}{S_{b_3}} = 0,29 \quad t_4 = \frac{b_4 - \beta_4}{S_{b_4}} = 0,75$$

Decisive rule: Since $t_{cr} < |t_i|$ ($i=1,2,3,4,5$) in all cases The hypothesis H_0 is rejected. This means that the coefficients β_2 , β_3 , and β_4 of the estimated regression equation for the main set are positive, and the coefficient β_1 is negative. The selected model successfully passed the F-test and t-test.

Final regression equation:

$$\log_{10}y = -1,01 + 0,33x_1 + 0,19x_2 + 0,62x_3 \quad (2.2)$$

Regression from the equation known that's it to the result (SHE IS to) high The strongest influencing factor is the S factor, followed by the A factor, and finally



V-factors. This means that tourism services are provided at a very low level in the Republic, and the attractiveness of tourism is not high.

Conclusion

Tourism has become a key driver of economic activity - after a sharp decline due to the pandemic in 2020, inbound tourism consumption grew sharply in 2022 and 2023, reaching 25 trillion soums, indicating that the sector is not only recovering, but also developing rapidly.

The stability of employment indicators confirms the social importance of tourism - even during the crisis, employment in tourism did not decrease sharply, reaching 215.7 thousand people by 2023, demonstrating the potential of this sector to create stable jobs.

The positive impact of public policy is being felt - the recovery trend in tourism consumption and employment reflects the effectiveness of reforms, infrastructure development, and international advocacy campaigns implemented in recent years, confirming the correctness of identifying the sector as a priority.

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